

F0201

METHOD OF MANUFACTURING A SEMICONDUCTOR  
DEVICE WITH SUPERSATURATED SOURCE/DRAIN  
EXTENSIONS AND METAL SILICIDE CONTACTS

ABSTRACT OF THE DISCLOSURE

Semiconductor devices, such as transistors, with a supersaturated concentration of dopant in the source/drain extension and metal silicide contacts enable the production of smaller, higher speed devices. Supersaturated source/drain extensions are subject to dopant diffusion out from the source/drain extension during high temperature metal silicide contact formation. The formation of  
5 lower temperature metal silicide contacts, such as nickel silicide contacts, prevents dopant diffusion and maintains the source/drain extensions in a supersaturated state throughout semiconductor device manufacturing.

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